Maxwell Howe

Salem, MA · mhowe.gis@gmail.com · maxwellhowegis.com · github.com/mapzimus · LinkedIn

GIS analyst with an M.S. in Geo-Information Science (Salem State, 2025) and a portfolio of published web maps, spatial analyses, and reproducible data pipelines in ArcGIS Pro, QGIS, PostGIS, R, Python, and MapLibre. Four years teaching statistics at Lynn English High School and eight years managing hotels taught me to explain technical results to people who did not ask for a lecture.

EXPERIENCE

Independent GIS Developer & Analyst 2023 – present

maxwellhowegis.com · Salem, MA · self-directed portfolio work

- Build and publish web GIS applications from raw data to front end: acquisition, PostGIS, analysis in R and Python, and MapLibre or Leaflet interfaces.
- Massachusetts Education Atlas: every public school and district in the state with 40+ joined metrics. Dissolved 274 academic district polygons from town-level data because no MassGIS layer has them.
- Lidar Site Studies: four public-data terrain studies of wooded Massachusetts land covering bare earth, canopy height, wetness, viewsheds, access grades, and cut/fill.
- Run a self-hosted OSRM routing server for drive-time matrices, isochrones, and route optimization. It powers the Optimal Drives video series.

Probability, Statistics & Financial Literacy Teacher Aug 2022 – present

Lynn English High School · Lynn, MA

- Write and teach my own curriculum for Probability & Statistics, Financial Algebra, and Algebra 2 in a multilingual Gateway City school.
- Run project-based units where students collect survey data and analyze it in R.
- Built lehsmath.com, the classroom tools and MCAS practice site the math department uses, and wrote a Grade 10 MCAS results report from state data.

Instructional Facilitator Jan 2023 – present

LEAP for Education · Salem, MA · part-time

- Teach a financial literacy curriculum for middle schoolers, including sessions for Spanish-speaking students.
- Gave a one-hour community talk on geospatial and data science careers with a live ArcGIS Pro demo.

Founder & Developer 2025 – present

TappyMaps (Mapparatus LLC) · tappymaps.com

- Shipped a commercial web app for coloring US state and county maps and exporting PNG or SVG. Vanilla JavaScript over TopoJSON, Supabase auth with row-level security, Stripe billing.

Founder & Operator 2013 – present

North Shore Nostalgia LLC · eBay retro game resale

- About 1,400 lifetime sales. Pricing and order data analyzed in R; mapped the order history as the Sales Atlas on this site.

Hotel Operations & General Management 2014 – 2022

Best Western Concord, Quality Inn Loudon-Concord, Hotel Indigo Boston Garden

- Eight years: assistant GM, then GM of a second property while still running the first (about 3.5 years across two sites), then operations manager of a high-volume hotel next to TD Garden.
- Owned rate management and forecasting, payroll, department budgets, hiring, and training.
- Ran the roughly 86-room Loudon hotel alone from April to November 2020, at full occupancy May through September housing National Guard and other pandemic-response personnel.

Regional Disaster Planning & Exercise Coordinator (Internship) Jan 2012 – May 2013

American Red Cross · NH / VT

- Drafted and revised state-level disaster plans, ran table-top exercises, and presented at the NH Emergency Preparedness Conference.

SELECTED PROJECTS

- **The Quabbin Reservoir and the Lost Towns of the Swift River Valley.** Reproducible R study (sf, terra, ggplot2) with a 1 m lidar explorer where the lost villages' streets and cellar holes still show.
- **New England in Motion.** Live map of transit, rail, vessels, aircraft, bikes, and traffic cameras across six states.
- **Chronic Absenteeism and Distance to School, Lynn Public Schools.** M.S. capstone. Geocoded 2,048 student records and tested absenteeism against distance from school.
- **30 Day Map Challenge 2026.** A print map a day in QGIS, R, Python, and Illustrator.

EDUCATION

M.S. Geo-Information Science 2023 – 2025

Salem State University · Salem, MA

B.S. Homeland Security, Intelligence Analysis concentration 2010 – 2014
Daniel Webster College · Nashua, NH

SKILLS

GIS	ArcGIS Pro, ArcGIS Online, QGIS, PostGIS, arcpy, network analysis, geocoding, cartography
Web mapping	MapLibre GL JS, Leaflet, PMTiles, JavaScript, HTML/CSS
Data	R (tidyverse, sf, terra, ggplot2), Python (pandas, GeoPandas), SQL / PostgreSQL, regression, clustering
Remote sensing	Lidar (PDAL, WhiteboxTools), Landsat and Sentinel-2, ERDAS IMAGINE
Routing	OSRM, drive-time isochrones, route optimization
Design	Adobe Illustrator, print cartography

CERTIFICATIONS

- Massachusetts Mathematics Teaching License (provisional, 2026)
- FEMA Independent Study and ICS certificates (10), 2012